The Journal of

Steroid Biochemistry & Molecular Biology

EDITOR-IN-CHIEF
J. R. PASQUALINI

HONORARY EDITOR-IN-CHIEF
R. SCHOLLER

VOLUME CONTENTS,
SUBJECT AND AUTHOR INDEX

Volume 57
1996

Pergamon

The Journal of
Steroid Biochemistry and Molecular Biology

EDITOR-IN-CHIEF

J. R. Pasqualini

Institut de Puériculture, 26 Boulevard Brune, 75014 Paris, France

HONORARY EDITOR-IN-CHIEF

R. Scholler

Institute de Puériculture, 26 Boulevard Brune, 75014 Paris, France

ASSOCIATE EDITORS

M. Beato, Marburg/Lahn, Germany
B. Groner, Freiburg, Germany
E. Gurpide, New York, U.S.A.
J.-Å. Gustafsson, Huddinge, Sweden
J. Kato, Ichihara, Chiba, Japan
M. E. Lippman, Washington, DC, U.S.A.
L. Martini, Milan, Italy
A. Munck, Hanover, NH, U.S.A.
B. W. O'Malley, Houston, TX, U.S.A.
D. O. Toft, Rochester, MN, U.S.A.

CORRESPONDING EDITORS

A. Aakvaag, Bergen, Norway
A. S. Bhatnagar, Basel, Switzerland
R. Bouillon, Leuven, Belgium
A. Brodie, Baltimore, U.S.A.
M. Bronnegard, Huddinge, Sweden
M. L. Casey, Dallas, U.S.A.
K. J. Catt, Bethesda, U.S.A.
G. Chetrite, Paris, France
J. A. Cidlowski, Research Triangle Park, U.S.A.
P. D. Darbre, Reading, U.K.
G. Daxenbichler, Innsbruck, Austria
A. De Nicola, Buenos Aires, Argentina
E. R. DeSombre, Chicago, U.S.A.
B. N. Díaz-Chico, Las Palmas, Spain
R. B. Dickson, Washington, U.S.A.
M. Dowsett, London, U.K.
M. L. Dufau, Bethesda, U.S.A.
D. P. Edwards, Denver, U.S.A.
H. A. Eriksson, Stockholm, Sweden
J. W. Funder, Prahran, Australia
S. A. Fuqua, San Antonio, U.S.A.
G. Greene, Chicago, U.S.A.
H. Gronemeyer, Strasbourg, France
K. B. Horwitz, Denver, U.S.A.
I. Huhtaniemi, Turku, Finland
V. C. Jordan, Chicago, U.S.A.
B. S. Katzenellenbogen, Urbana, U.S.A.
A. M. Kaye, Rehovot, Israel
E. R. de Kloet, Leiden, The Netherlands
H. J. Kloosterboer, Oss, The Netherlands
F. Labrie, Quebec, Canada
S. Liao, Chicago, U.S.A.
V. B. Mahesh, Augusta, U.S.A.
B. S. McEwen, New York, U.S.A.
H. Michna, Cologne, Germany
E. Milgrom, Le Kremlin-Bicêtre, France
J. Müller, Zurich, Switzerland
L. J. Murphy, Winnipeg, Canada
A. Naray-Fejes-Toth, Hanover, U.S.A.
M. I. New, New York, U.S.A.
A. W. Norman, Riverside, U.S.A.
T. Ojasoo, Montrouge, France
M. G. Parker, London, U.K.
G. Pérez-Palacios, Mexico City, Mexico
W. B. Pratt, Ann Arbor, U.S.A.
J. P. Raynaud, Paris, France
R. Renkawitz, Giessen, Germany
H. Rochefort, Montpellier, France
B. Sato, Osaka, Japan
M. Serio, Florence, Italy
E. R. Simpson, Dallas, U.S.A.
L. Stárka, Prague, Czech Republic
J. F. Strauss III, Philadelphia, U.S.A.
R. L. Sutherland, Darlinghurst, Australia
J. R. Tata, London, U.K.
W. Taylor, Tynemouth, U.K.
J. H. H. Thijssen, Utrecht, The Netherlands
P. Tuohimaa, Tampere, Finland
G. Verhoeven, Leuven, Belgium
A. Vermeulen, Ghent, Belgium
R. Vihko, Oulu, Finland
A. E. Wakeling, Macclesfield, U.K.
C. R. Wira, Hanover, U.S.A.
T. Yamamoto, Kyoto, Japan

HONORARY ASSOCIATE EDITORS

H. Adlercreutz, Helsinki, Finland
E. V. Jensen, Hamburg, Germany
R. J. B. King, Guildford, U.K.

Publishing Office

(*Production Editors*: Amanda Booth and Maria Hale)
Elsevier Science Ltd, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, U.K.

Subscription and Advertising Offices

North America: Elsevier Science Inc., 660 White Plains Road, Tarrytown, NY 10591-5153, U.S.A.
Rest of the World: Elsevier Science Ltd, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, U.K.
[*Tel.* Oxford (01865) 843000; *Fax* (01865) 843010]

Publication Frequency (1996)

Published 14 issues in 1996, monthly plus extra issues in January and December.

Subscription Rates (1996)

Annual Institutional Subscription Rates (1996): North, Central and South America, US$2225.00; Rest of World, £1399.00. Associated Personal Subscription Rates are available on request for those whose institutions are library subscribers. Sterling prices exclude VAT. Non-VAT registered customers in the European Community will be charged the appropriate VAT in addition to the price listed. Prices include postage and insurance and are subject to change without notice.

Back Issues

Back issues of all previously published volumes are available direct from Elsevier Science Offices (Oxford and New York). Complete volumes and single issues can be purchased for 1990–1995. Earlier issues are available in high quality photo-duplicated copies as complete volumes only.

SECOND CLASS POSTAGE PAID AT NEWARK, NEW JERSEY AND ADDITIONAL ENTRY POINTS. *The Journal of Steroid Biochemistry & Molecular Biology* (ISSN 0960–0760) is published 14 issues per year, monthly plus extra issues in January and December by Elsevier Science Ltd., The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, U.K. The annual subscription in the U.S.A. is $2225. *The Journal of Steroid Biochemistry & Molecular Biology* is distributed by Mercury Airfreight International Ltd, 10 Camptown Road, Irvington, NJ 07111-1105. POSTMASTER: please send address corrections to *The Journal of Steroid Biochemistry & Molecular Biology*, c/o Elsevier Science Inc., 660 White Plains Road, Tarrytown, NY 10591-5153, U.S.A.

Copyright © 1996 Elsevier Science Ltd. All rights reserved

LIST OF CONTENTS

Review

Isabel Martínez-Lacaci and Robert B. Dickson 1 Dual regulation of the epidermal growth factor family of growth factors in breast cancer by sex steroids and protein kinase C

Rapid Communication

G. Szabadkai, A. Horváth, T. Rohács, L. Vimláti, A. Spät and P. Enyedi 13 Expression of inositol 1,4,5-trisphosphate receptors in rat adrenocortical zones

Reyes Candau, Sebastián Chávez and Miguel Beato 19 The hormone responsive region of mouse mammary tumor virus positions a nucleosome and precludes access of nuclear factor I to the promoter

Earl M. Ritzi 33 Quantitative flow cytometry reveals a hierarchy of glucocorticoid effect on cell surface mouse mammary tumor virus gp52

Stéphan Jalaguier, Danielle Mesnier, Jean J. Léger and Gilles Auzou 43 Putative steroid binding domain of the human mineralocorticoid receptor, expressed in *E. coli* in the presence of heat shock proteins shows typical native receptor characteristics

Carolyn M. Klinge, Abdulmaged M. Traish, Robert A. Bambara and Russell Hilf 51 Dissociation of 4-hydroxytamoxifen, but not estradiol or tamoxifen aziridine, from the estrogen receptor as the receptor binds estrogen response element DNA

J. A. Mol, E. van Garderen, G. R. Rutteman and A. Rijnberk 67 New insights in the molecular mechanism of progestin-induced proliferation of mammary epithelium: induction of the local biosynthesis of growth hormone (GH) in the mammary gland of dogs, cats and humans

Moomen Baroudi, Jacqueline Robert and Cuong Luu-Duc 73 Imidazole derivatives of pyrrolidonic and piperidonic acids as potential inhibitors of human placental aromatase *in vitro*

L. W. Lawrence Woo, Mark Lightowler, Atul Purohit, Michael J. Reed and Barry V. L. Potter 79 Heteroatom-substituted analogues of the active-site directed inhibitor estra-1,3,5(10)-trien-17-one-3-sulphamate inhibit estrone sulphatase by a different mechanism

Anna S. Belloni, Paola G. Andreis, Giuliano Neri, Gian Paolo Rossi, Anna Markowska, Giuseppe Gottardo, Ludwik K. Malendowicz and Gastone G. Nussdorfer 89 *In vitro* studies of the subtypes of endothelin (ET) receptors present in the rat testis, and of their involvement in the secretory response of Leydig cells to ET-1

P. N. Span, Th. J. Benraad, C. G. J. Sweep and A. G. H. Smals 95 Kinetic analysis of rat steroid 5α-reductase activity in prostate and epididymis homogenates at neutral pH: evidence for type I activity in epididymis

P. N. Span, Th. J. Benraad, C. G. J. Sweep and A. G. H. Smals 103 Kinetic analysis of steroid 5α-reductase activity at neutral pH in benign prostatic hyperplastic tissue: evidence for type I isozyme activity in the human prostate

E. Elfahime, J. M. Félix and B. Koch 109 Regulation of corticosteroid-binding globulin synthesis by 1α,25-dihydroxyvitamin D_3 (calcitriol), 9-*cis*-retinoic acid and triiodothyronine in cultured rat fetal hepatocytes

Donald P. Satchell and Anthony W. Norman 117 Metabolism of the cell differentiating agent 1α,25$(OH)_2$-16-ene-23-yne vitamin D_3 by leukemic cells

Steeve Véronneau, Hugues Bernard, Mario Cloutier, Jean Courtemanche, Lyne Ducharme, Andrée Lefebvre, J. Ian Mason and Jean-Guy LeHoux 125 The hamster adrenal cytochrome *P*450C11 has equipotent 11β-hydroxylase and 19-hydroxylase activities, but no aldosterone synthase activity

G. Defaye, A. Piffeteau, C. Delorme and A. Marquet 141 Specific inhibition of the last steps of aldosterone biosynthesis by 18-vinylprogesterone in bovine adrenocortical cells

149 Corrigendum

151 Announcement

Michal Melamed, Steven F. Arnold, Angelo C. Notides and Shlomo Sasson 153 Kinetic analysis of the interaction of human estrogen receptor with an estrogen response element

Véronique Pallet, Isabelle Audouin-Chevallier, Denise Higueret, Henri Garcin and Paul Higueret 161 Dexamethasone decreases the expression of retinoic acid receptors (RARs) in rat liver

Svein I. Helle, Gun B. Anker, Michael Tally, Kirstin Hall and Per E. Lonning 167 Influence of droloxifene on plasma levels of insulin-like growth factor (IGF)-I, proIGF-IIE, insulin-like growth factor binding protein (IGFBP)-1 and IGFBP-3 in breast cancer patients

Jacqueline F. Schmitt, Milton T. W. Hearn and Gail P. Risbridger 173 Expression of fibroblast growth factor-8 in adult rat tissues and human prostate carcinoma cells

Eisaku Okuyama, Tomoko Okazaki, Aizo Furukawa, Ru-Feng Wu and Yoshiyuki Ichikawa	179	Molecular cloning and nucleotide sequences of cDNA clones of sheep and goat adrenocortical cytochromes P450scc (CYP11A1)
A. Häusler, P. R. Allegrini, M. Biollaz, Ch. Batzl, E. Scheidegger and A. S. Bhatnagar	187	CGP 53153: a new potent inhibitor of 5α-reductase
J. Zhao, B. K. Tan, S. Marcelis, A. Verstuyf and R. Bouillon	197	Enhancement of antiproliferative activity of 1α,25-dihydroxyvitamin D_3 (analogs) by cytochrome *P*450 enzyme inhibitors is compound- and cell-type specific
Manuel Borrás, Ioanna Laios, Abdelhamid El Khissiin, Hye-Sook Seo, France Lempereur, Nicole Legros and Guy Leclercq	203	Estrogenic and antiestrogenic regulation of the half-life of covalently labeled estrogen receptor in MCF-7 breast cancer cells
C. Pelissero, M. J. P. Lenczowski, D. Chinzi, B. Davail-Cuisset, J. P. Sumpter and A. Fostier	215	Effects of flavonoids on aromatase activity, an *in vitro* study
Chantal Guillemette, Dean W. Hum and Alain Bélanger	225	Evidence for a role of glucuronosyltransferase in the regulation of androgen action in the human prostatic cancer cell line LNCaP
Hervé Mittre, Emmanuel Breard and Pierre Leymarie	233	The possible involvement of LH/hCG induced mitochondrial proteins in the regulation of steroidogenesis in bovine luteal cells
Joop D. van den Berg, Lou A. Smets and Henny van Rooij	239	Agonist-free transformation of the glucocorticoid receptor in human B-lymphoma cells
B. Cooper, J. A. Gruber and M. J. McPhaul	251	Hormone-binding and solubility properties of fusion proteins containing the ligand-binding domain of the human androgen receptor
Mini Review **Simon K. Kawa and E. Brad Thompson**	259	Lymphoid cell resistance to glucocorticoids in HIV infection
Liang-Nian Song	265	Demonstration of vitamin D receptor expression in a human megakaryoblastic leukemia cell line: regulation of vitamin D receptor mRNA expression and responsiveness by forskolin
Jiro Fujimoto, Satoshi Ichigo, Masashi Hori, Shigeo Morishita and Teruhiko Tamaya	275	Progestins and danazol effect on cell-to-cell adhesion, and E-cadherin and α- and β-catenin mRNA expressions
M. Saeed Sheikh, Patrick Augereau, Dany Chalbos, Marcel Garcia and Henri Rochefort	283	Retinoid regulation of human cathepsin D gene expression
Klaus Graumann, James L. Wittliff, Wolfgang Raffelsberger, Lynne Miles, Alois Jungbauer and Tauseef R. Butt	293	Structural and functional analysis of N-terminal point mutants of the human estrogen receptor
Ruoqing Shen, Ming-Chung Lin, Farshid Sadeghi, Jacob Rajfer, Néstor F. Gonzalez-Cadavid and R. S. Swerdloff	301	Androgens are not major down-regulators of androgen receptor levels during growth of the immature rat penis
Anny Souque, Jerome Fagart, Brigitte Couette and Marie-Edith Rafestin-Oblin	315	Sulfhydryl groups are involved in the binding of agonists and antagonists to the human mineralocorticoid receptor
J. W. Chapman, B. G. Mobbs, D. R. McCready, H. L. A. Lickley, M. E. Trudeau, W. Hanna, H. J. Kahn, C. A. Sawka, E. B. Fish and K. I. Pritchard	323	An investigation of cut-points for primary breast cancer oestrogen and progesterone receptor assays
M. K. Kodjo, F. Leboulenger, M. Morra, J. M. Conlon and H. Vaudry	329	Pharmacological profile of the tachykinin receptor involved in the stimulation of corticosteroid secretion in the frog *Rana ridibunda*
R. T. Stravitz, Z. R. Vlahcevic, T. L. Russell, M. L. Heizer, N. G. Avadhani and P. B. Hylemon	337	Regulation of sterol 27-hydroxylase and an alternative pathway of bile acid biosynthesis in primary cultures of rat hepatocytes
Yasumasa Kato, Satoru Ozono and Shinri Koshika	349	Testosterone metabolism in new squamous cell carcinoma cell line (RSS18) from 7,12-dimethylbenz[a]anthracene-induced submandibular gland of female rat
Ewa Brzezowska, Jadwiga Dmochowska-Gladysz and Teresa Kołek	357	Biotransformation XXXIX. Metabolism of testosterone, androstenedione, progesterone and testosterone derivatives in *Absidia coerulea* culture
W. Schänzer, S. Horning, G. Opfermann and M. Donike	363	Gas chromatography/mass spectrometry identification of long-term excreted metabolites of the anabolic steroid 4-chloro-1,2-dehydro-17α-methyltestosterone in humans